The media, compositions, and methods of the invention are also useful for treating cancers that are treated by bone marrow transplants (BMT) that involve removing bone marrow cells from the patient, maintaining these cells in an ex vivo culture while the patient is treated with radiation or chemotherapy, and then transplanting these cells back into the patient after the treatment has been completed to restore the patient's bone marrow. Accordingly, PRP and/or platelet releasate may be employed for BMT as a means for reconstituting bone marrow in ex vivo cell culture medium and for promoting bone marrow cell proliferation in vivo. PRP and/or platelet releasate is also useful for other cell therapies, e.g. cell expansion and/or gene therapy protocols, therapies requiring ex vivo cell culture. PRP and/or platelete releasate is also useful in the prevention of autolocous or allogenic bone marrow transplant rejection.

The preceding merely illustrates the principles of the invention. It will be appreciated that those skilled in the art will be able to devise various arrangements which, although not explicitly described or shown herein, embody the principles of the invention and are included within its spirit and scope. Furthermore, all examples and conditional language recited herein are principally intended to aid the reader in understanding the principles of the invention and the concepts contributed by the inventors to furthering the art, and are to be construed as being without limitation to such specifically recited examples and conditions. Moreover, all statements herein reciting principles, aspects, and embodiments of the invention as well as specific examples thereof, are intended to encompass both structural and functional equivalents thereof. Additionally, it is intended that such equivalents include both currently known equivalents and equivalents developed in the future, i.e., any elements developed that perform the same function, regardless of structure. The scope of the present invention, therefore, is not intended to be limited to the exemplary embodiments shown and described herein. Rather, the scope and spirit of present invention is embodied by the appended claims.

That which is claimed is:

1. A method for treating glioblastoma cancer comprising:
extracting blood from a patient in need of cancer treatment;
concentrating platelets from the blood;
processing the platelets in a manner which breaks open the platelets and obtaining an injectable platelet releasate;
formulating the platelet releasate into an injectable formulation buffered to a pH of 7.4±5%; and
injecting the platelet releasate to the patient in need of said glioblastoma cancer treatment.

2. The method of claim **1**, wherein the processing comprises exposing the platelets to energy waves.

3. The method of claim **1**, wherein the administering comprises injecting the platelet releasate into a tumor of the patient.

4. The method of claim **1**, wherein the administering comprises injecting the platelet releasate into a cancerous tumor of the patient.

5. The method of claim **1**, wherein the patient treated with the formulation is the same patient from which the blood is extracted from, and the formulation is buffered to pH 7.4±2%; and wherein the platelets are processed for a period of time and under conditions so as to break open 90% or more of the platelets.

6. The method of claim **5**, further comprising:
repeatedly injecting a therapeutically effective amount of the formulation to the patient over a period of time while monitoring the patient and adjusting dosing to effectively treat the cancer.

7. The method of claim **1**, wherein injecting of the injectable platelet releasate is to an area where a tumor has been removed from the patient.

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